



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/529,181	03/24/2005	Vencent Johannes Jacobus Montfort	1217/224	1880
46852	7590	09/03/2008		
LIU & LIU 444 S. FLOWER STREET, SUITE 1750 LOS ANGELES, CA 90071			EXAMINER TAOUSAKIS, ALEXANDER P	
			ART UNIT	PAPER NUMBER
			3726	
			MAIL DATE	DELIVERY MODE
			09/03/2008 PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/529,181

Applicant(s)

MONTFORT ET AL.

Examiner

ALEXANDER P. TAOUSAKIS

Art Unit

3726

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 July 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) 1-19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF/US)
Paper No(s)/Mail Date 3/24/2005
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

Applicant's election without traverse of claims 1-10 in the reply filed on 7/16/2008 is acknowledged.

Claim Objections

Claims 1-10 are objected to because of the following informalities: In Claim 1 step f, it is unclear what is meant by "placing the image sensor chip". Where is the image sensor chip being placed, and where is being moved from? For Examination purposes, step f has been interpreted as attaching the image sensor chip to the substrate. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-5, 8-10 are rejected under 35 U.S.C. 102(e) as being anticipated by Lam (6,541,284).

1. Method for assembling a camera module comprising a
substrate, a lens (89) and an image sensor chip (97) having a light-sensitive surface,

wherein in an assembled state an optical axis of the lens extends in a z-direction and the light-sensitive surface of the image sensor chip extends at a pre-determined sensor surface position perpendicular to the z-direction (*See Abstract and Figure 16*), the method comprising the following steps :

- a) aligning a detector of a measuring device (115) with the optical axis of the lens (89) (*see Figure 16*);
- b) displacing the lens in the z-direction (*see column 7 lines 8-12*);
- c) determining an optimal z-position for the lens on the basis of measuring signals from the measuring device, wherein measuring is performed at a measuring position (*see column 7 lines 8-12*);
- d) bringing the lens to the optimal z-position, preferably fixing the lens with respect to the substrate (*see column 7 lines 8-12*);
- e) removing the measuring device (115) (*see Abstract and note that it is inherent that the measuring device is removed once the lens has been brought into position*) ; and
- f) attaching the image sensor chip to the substrate (*see column 5 lines 20-22*).

2. Method according to claim 1, wherein the measuring device (115) is positioned at a bottom surface of the substrate (*see Figure 16*).

3. Method according to claim 1, wherein the measuring device (115) comprises a diaphragm opening aligned with the optical axis of the lens, and a light sensor (101) receiving all light passing through the diaphragm opening, and wherein step c)

comprises the step of determining the light intensity detected by the light sensor as a function of the lens position (*see column 7 lines 5-14, and note that the image sensor chip is part of the measuring device, and acts as the light sensor and the diaphragm opening, and furthermore note that focus measurement is a form of the light intensity*).

4. Method according to claim 1, further comprising the step of determining a maximum light intensity (*see column 7 lines 5-14, and note that an positioning the lens at its optimal focus is positioning it at its maximum light intensity because at optimal focus the largest amount of light is passing through the lens*).

5. Method according to claim 1, wherein the measuring position coincides with the sensor surface position, and wherein the displacement of the lens is stopped as soon as the optimal z-position is reached (*see column 7 lines 5-14*).

8. Method according to claim 1, wherein the displacement of the lens takes place step by step (*see column 7 lines 5-14, and note that the step is infinitesimally small, i.e. the measuring device continuously monitors the focus of the lens*).

9. Method according to claim 8, wherein the measuring position is at a pre-determined distance AZ2 from the sensor surface position, and wherein the predetermined distance AZ2 is larger than one step of the displacement of the lens (*see Figure 13, where the lens is at a predetermined distance, and note that the measuring device 115 continuously measures the position and focus of the lens, so the step is infinitesimally small*)).

10. Method, preferably according to claim 1, wherein a lens assembly having a lens is press-fitted in a mount (81), which is fixedly attached to a substrate or an integral part thereof (*see column 6 lines 5-6*), the method comprising the step of pushing the lens assembly into the mount until the lens has reached a desired position (*see column 7 lines 5-17*).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lam (6,541,284).

Lam teaches the method of claim 4, but fails to teach wherein displacement of the lens is continued after the optimal z-position is reached. At the time of the invention, it would have been an obvious matter of design choice to a person of ordinary skill in the art at the time, to have displaced the lens after the optimal z-position was reached

because applicant has not disclosed that the method is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected applicant's invention to perform equally well with Lam's method for assembling a camera module because either will produce an accurately positioned lens. Therefore, it would have been an obvious matter of design choice to modify Lam to continue displacing the lens and move the lens back to the optimal position, as claimed in claims 6 and 7.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALEXANDER P. TAOUSAKIS whose telephone number is (571)272-3497. The examiner can normally be reached on M-F 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bryant can be reached on (571) 272-4526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Alexander P Taousakis
Examiner
Art Unit 3726

/A. P. T./
Examiner, Art Unit 3726

/DAVID P. BRYANT/
Supervisory Patent Examiner, Art Unit 3726